

REMARKS

In the outstanding Office Action, the Examiner asked for certified copies of Applicants' priority documents; objected to the title and specification for various informalities; objected to claims 4, 7, 8, and 10 for various informalities; rejected claims 1, 3, and 5 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,290,604 to Miyamoto et al. ("Miyamoto"); rejected claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Miyamoto; rejected claims 2 and 4 under 35 U.S.C. § 103(a) as being unpatentable over Foley et al., "Computer Graphics: Principles and Practice," Addison-Wesley Publishing Company, Inc., February 2002, page 734 ("Foley"); and rejected claims 7-10 under 35 U.S.C. § 103(a) as being unpatentable over Miyamoto in view of U.S. Patent No. 6,917,370 to Benson ("Benson").

By this amendment, Applicants have amended the title and the specification. Applicants have additionally amended claims 1 and 3-10. Claims 1-15 are pending, with claims 1-10 presented for examination.

I. Priority Documents

In the Office Action, the Examiner acknowledged Applicants' claim for priority, but noted that Applicants had not filed the required priority documents. Accordingly, Applicants enclose herewith copies of Japanese Patent Application No. 2002-196859, filed on July 5, 2002, and Japanese Patent Application No. 2003-189226, from which Applicants claim priority, as required by 35 U.S.C. § 119(b).

II. Objections to the Specification

Regarding the Examiner's objections to the specification, Applicants have first amended the title to read as "THREE-DIMENSIONAL IMAGE DISPLAY METHOD AND

APPARATUS UTILIZING A DETECTOR FOR DETECTING A POSITION OF A LIGHT SOURCE, TO SHADE A VIRTUAL OBJECT," in order to more appropriately describe the pending claims. In addition, Applicants have amended the specification in order to correct the minor errors as pointed out by the Examiner. Accordingly, Applicants respectfully request that the objections to the specification be withdrawn.

III. Objections to the Claims

Regarding the Examiner's objections to claims 4, 7, 8, and 10 for various informalities and antecedent basis problems, Applicants have amended claims 4, 7, 8, and 10 to incorporate the Examiner's suggestions and to correct any antecedent basis problems. Accordingly, Applicants respectfully request that the objections to claims 4, 7, 8, and 10 be withdrawn.

IV. Rejection under 35 U.S.C. § 102(e)

Regarding the Examiner's rejection of claims 1, 3, and 5 under 35 U.S.C. § 102(e) as being anticipated by Miyamoto, Applicants disagree with the Examiner's assertions and conclusions as set forth in the outstanding Office Action¹. Accordingly, Applicants respectfully traverse this rejection.

In order to properly anticipate Applicants' claimed invention under 35 U.S.C. §102, each and every element of the claim in issue must be found, "either expressly or inherently described, in a single prior art reference." "The identical invention must be shown in as complete detail as is contained in the . . . claim. *Richardson v. Suzuki*

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement of characterization in the Office Action.

Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).” See

M.P.E.P. § 2131, 8th Ed. (Rev. 2), May, 2004.

Applicants respectfully submit that Miyamoto cannot anticipate at least claim 1, because that reference fails to teach each and every element of the claim. For example, Miyamoto fails to teach a combination including “detecting a position of a light source *existing in real space*,” as recited in claim 1.

Miyamoto teaches “a video game apparatus for processing shadows to be displayed by an improved method,” wherein “[a] shadow object program … is stored with a program display a shadow of the player object on a ground object according to the data of a *light object* for illuminating the player object.” Miyamoto, col. 1, lines 11-13; col. 6, lines 64-67 (emphasis added). “A flag register area 206 sets a flag … includ[ing] a light number register (Ln) representative of the number of light sources (natural light, external light, or point light) existing in one *virtual three-dimensional space* (scene).” *Id.*, at col. 7, line 66 - col. 8, line 5 (emphasis added). Because Miyamoto only teaches detecting the position of virtual light sources, Miyamoto fails to teach a combination including “detecting a position of a light source existing in real space,” as recited in claim 1. Accordingly, claim 1 is allowable over Miyamoto for at least this reason.

Claims 3, and 5, while of different scope, recite elements similar to claim 1. For example, claim 3 recites a combination including “detecting positions of a plurality of light sources existing in real space,” and claim 5 recites a combination including “a detector which detects a position of a light source existing in real space.” Accordingly,

Applicants submit that claims 3 and 5 are allowable over Miyamoto for at least the reasons given above with respect to claim 1.

V. Rejections under 35 U.S.C. § 103(a)

Applicants respectfully traverse the Examiner's rejection of claims 2, 4, and 6-10 under 35 U.S.C. § 103(a) because the Examiner has failed to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness under 35 U.S.C. §103(a), each of three requirements must be met. First, the reference or references, taken alone or combined, must teach or suggest each and every element recited in the claims. See MPEP §2143.03, 8th Ed. (Rev. 2), May, 2004. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of the three requirements must "be found in the prior art, and not be based on applicant's disclosure." See MPEP § 2143, 8th Ed. (Rev. 2), May, 2004. At a minimum, the Examiner has failed to establish a *prima facie* case of obviousness because the references, whether taken alone or in combination, fail to teach or suggest each and every element of the claims.

Regarding the Examiner's rejection of claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Miyamoto, Applicants respectfully note that Miyamoto fails to teach or suggest each and every element recited in claim 6. For example, claim 6 recites a combination including "a plurality of detectors which detects a position of a light source existing in real space." As discussed above with respect to claim 1, Miyamoto only teaches the detecting the position of virtual light sources." Miyamoto thus fails to teach

or suggest at least the combination including “a plurality of detectors which detects a position of a light source *existing in real space*,” as recited in claim 6. Because the cited reference fails to teach or suggest each and every element required by claim 6, the Examiner has failed to establish a *prima facie* case of obviousness. Accordingly, Applicants respectfully request that the rejection of claim 6 under 35 U.S.C. § 103(a) be withdrawn.

Regarding the Examiner’s rejection of claims 2 and 4 under 35 U.S.C. § 103(a) as being unpatentable over Miyamoto in view of Foley, Applicants note that claim 2 depends from claim 1, claim 4 depends from claim 3, and thus claims 2 and 4 respectfully require all of the elements recited in respective claims 1 and 3. As discussed above, Miyamoto fails to teach a combination including at least “detecting a position of a light source existing in real space,” as recited in claims 1 and 3. Foley fails to cure this deficiency of Miyamoto.

Foley teaches a method for summing multiple virtual light sources in order to illuminate computer graphics on a computer screen. See Foley, page 734, and title page. Accordingly, Foley also fails to teach or suggest a combination including at least “detecting a position of a light source *existing in real space*,” as recited in claims 1 and 3, and required by claims 2 and 4. Because the references fail to teach or suggest each and every element required by claims 2 and 4, the Examiner has failed to establish a *prima facie* case of obviousness. Accordingly, Applicants respectfully request that the rejection of claims 2 and 4 under 35 U.S.C. § 103(a) be withdrawn.

Regarding the Examiner’s rejection of claims 7-10 under 35 U.S.C. § 103(a) as being unpatentable over Miyamoto in view of Benton, Applicants note that claims 7-10

depend from claim 5, and thus require all of the elements recited in claim 5. As discussed above, Miyamoto fails to teach or suggest at least "a detector which detects a position of a light source existing in real space," as recited in claim 5, and required by claims 7-10. Benton fails to cure at least this deficiency of Miyamoto.

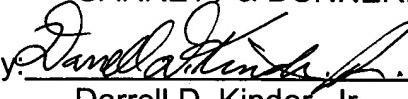
Benton teaches an augmented reality/virtual reality method and system wherein a "computer is also receiving information from an orientation sensor 530 coupled to a video camera 520," and "the computer runs software 500 that comprises virtual reality and augmented reality systems." Benton, col. 6, lines 10-13. Benton, however, fails to teach or suggest "a detector which detects a *position* of a light source *existing in real space*," as recited in claim 5, and required by claims 7-10 (emphasis added). Because the references fail to teach or suggest each and every element required by claims 7-10, the Examiner has failed to establish a *prima facie* case of obviousness. Accordingly, Applicants respectfully request that the rejection of claims 7-10 under 35 U.S.C. § 103(a) be withdrawn.

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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